IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of Atty. Docket: NL 020659

VAN BECKHOVEN; STEPHANUS JOSEPHUS MARIA ET AL.

Confirmation No. 2187

Serial No. 10/521,661 Group Art Unit: 2627

Filed: JANUARY 18, 2005 Examiner: YODICHKAS, A.

Title: ROTATION SPEED CONTROL FOR RECORDING INFORMATION

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APPEAL BRIEF

Sir:

Appellants herewith respectfully present a Brief on Appeal as follows, having filed a Notice of Appeal on May 15, 2009:

REAL PARTY IN INTEREST

The real party in interest in this appeal is the assignee of record Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA.

RELATED APPEALS AND INTERFERENCES

Appellants and the undersigned attorney are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-10 are pending in this application. Claims 1-10 are rejected in the Final Office Action mailed in March 11, 2009. This rejection was upheld, in the Advisory Action that was mailed on May 6, 2009. Claims 1-10 are the subject of this appeal.

STATUS OF AMENDMENTS

Appellants filed on April 23, 2009 an after final amendment in response to a Final Office Action mailed March 11, 2009. The after final amendment did not include any amendments. In an Advisory Action mailed on May 6, 2009, it is indicated that the after final amendment filed on April 23, 2009 does not place the application in condition for allowance. This Appeal Brief is in response to the Final Office Action mailed March 11, 2009, that finally rejected claims 1-10, which remain finally rejected in the Advisory Action mailed on May 6, 2009.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention, for example, as recited in independent claim 1, shown in FIGs 1-2 and described on page 5, line 8 to page 7, line 6 of the specification, is directed to a device for recording information on a disc-shaped record carrier 11, the record carrier comprising a track 9 for recording information, the device comprising a head 22 for scanning the track 9; a read unit for retrieving information from the track via the head 22; a write unit 27, 28, 29 for recording information in the track 9 via the head 22; a mode control unit 31 for switching the device either to a read mode or to a write mode; and a rotation speed control unit 37 for setting the rotation speed of the record carrier 11.

As described on page 7, lines 6-16 of the specification, the rotation speed control unit 37 comprises a speed selector 38 for selecting one of at least two speed settings for the read mode in dependence on an actual rotation speed of the record carrier during the write mode when switching from write mode to read mode. The difference in rotation speed between the actual rotation speed and

the speed in the read mode is limited by the selection.

The present invention, for example, as recited in independent claim 10, shown in FIGs 1-2 and described on page 5, line 8 to page 7, line 6 of the specification, is directed to a method of controlling a speed of rotation of a disc-shaped record carrier 11. The record carrier comprises a track 9 for recording information, and the method comprises scanning the track 9 via a head 22; retrieving information from the track 9 via the head 22; recording information in the track 9 via the head 22; switching the device either to a read mode or to a write mode; and setting the rotation speed of the record carrier 11.

As described on page 7, lines 6-16 of the specification setting the rotations speed of the record carrier 11 comprises selecting one of at least two speed settings for the read mode in dependence on an actual rotation speed of the record carrier during the write mode when switching from write mode to read mode. The difference in rotation speed between the actual rotation speed and the speed in the read mode is limited by the selection.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-7 and 10 of U.S. Patent Application Serial No. 10/521,661 are unpatentable under 35 U.S.C. §102(b) over U.S. Patent 6,333,903 (Suzuki).

Whether claims 8 and 9 of U.S. Patent Application Serial No. 10/521,661 are unpatentable under 35 U.S.C. §103(a) over Suzuki in view of U.S. Patent Application Publication No. 2002/0025138 (Isobe).

ARGUMENT

Claims 1-7 and 10 are said to be unpatentable over Suzuki.

Appellants respectfully request the Board to address the patentability of independent claims 1 and 10, and further claims 2-9 as depending from claim 1, based on the requirements of independent claim 1. This position is provided for the specific and stated purpose of simplifying the current issues on appeal. However, Appellants herein specifically reserve the right to argue and address the patentability of claims 2-9 at a later date should the separately patentable subject matter of claims 2-9 later become an issue. Accordingly, this limitation of the subject matter presented for appeal herein, specifically limited to discussions of the patentability of claims 1 and 10 is not intended as a waiver of Appellants' right to argue the patentability of the further claims and claim elements at that later time.

Suzuki discloses a disk unit and rotating motor control apparatus for recordable optical disk unit, in which a data synchronizing rotation control unit is included for controlling

rotation of a rotating motor in synchronism with a recorded data signal.

The Examiner has indicated that Suzuki discloses the claim limitation "the rotation speed control unit comprises a speed selector for selecting one of at least two speed settings for the read mode in dependence on an actual rotation speed of the record carrier during the write mode when switching from write mode to read mode, the difference in rotation speed between said actual rotation speed and the speed in the read mode being limited by said selection", citing Fig. 13, column 15, lines 14-58, Fig. 12, column 14, lines 40-55, fig. 24 and 25, column 24, lines 36-57, columns 4-5, lines 52-4, and stating "where based on the FG signal, a predetermined speed is chosen by the FG rotation control circuit which controls the motor which controls the rotation of the disc and Fig. 12 shows a time chart for when the apparatus is in operating in FG/OEC/WBL mode, or in read mode and Fig. 24 and 25 shows a time chart for when the apparatus is in FG/WBL mode or at the start and end of a write process."

As indicated in MPEP §2131, it is well-founded that "A claim

is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicants believe that the Examiner is mistaken. In particular, at col. 15, lines 14-58, Suzuki states:

> FIG. 13 is a functional block diagram showing an embodiment of the construction of an important part of the circuit of the WBL mode. In FIG. 13, the same designations are used as in FIG. 2. FIG. 13 shows a debounce circuit 41, a wobble PLL 42, a speed difference detector 43, a phase difference detector 44, a PWM output circuit 45, amplifiers 46 and 47, and an adder 48.
>
> As shown in FIG. 13, in the circuit of the WBL mode, a wobble signal input WBLIN and an encoder EFM **frame synchronizing signal** EEFS are compared by the speed difference detector 43, so as to obtain a speed comparison signal. In addition, the wobble signal input WBLIN and the encoder EFM **frame synchronizing signal** EEFS are compared by the phase difference detector 44, so as to obtain a phase comparison signal.

The speed comparison signal and the phase comparison signal are added by the adder 48, and an added result is input to the PWM output circuit 45, so as to generate the signals MPWM, MPWMP and MPWMN.

Accordingly, in the WBL mode, it is possible to **rotate the rotating motor in synchronism with the wobble signal** which is the zigzag signal of the guide groove of the CD-R disk.

In order to carry out the above described switching operation by the CPU, it is necessary to monitor the signal DPLOCK quite frequently, thereby increasing the load on the CPU and making it difficult to rotate the rotating motor at a high speed.

As a result, it becomes difficult to increase the recording and reproducing speed of the drive unit.

On the other hand, in this first embodiment, the control mode is automatically switched without having the CPU to carry out the monitoring, and the recording and reproducing speed of the drive unit can be increased.

In this mode, it is further desirable that the mode is first switched to the DEC mode when both the signal TON which indicates that the light beam is tracking the track on the disk and the signal DPLOCK are active and a **predetermined time** (for example, 256 EFM frames) has elapsed.

The EFM frame refers to 1 unit of the data on the disk, and is approximately 136 μs in the case of the standard speed of the CD.

By **counting the time** in frames, the time setting is automatically shortened when the speed is controlled to a speed which is 2, 4 or 8 times the standard speed (1 times speed), so as to suit a high **recording and reproducing speed**. (Emphasis added)

Applicants submit that it should be apparent from the above

that Suzuki is describing the adjusting of the time setting in dependence on the speed of rotation of the disk. However, there is no mention of the read rotation speed being selected based on the write rotation speed when switching from a write mode to a read mode.

It is alleged in the Advisory Action that FIG 13 and col. 15, lines 21-58 discloses the "speed will be different depending on whether the apparatus us in read or write mode." This allegation is misplaced as the col. 15, lines 21-58 of Suzuki merely disclose to change to "a high recording **and** reproducing speed." (Suzuki, col. 15, line 58; emphasis added) Changing the speed of both recording and reproducing does not disclose or suggest having different recording and reproducing speeds.

Even if different recording and reproducing speeds is disclosed or suggested in Suzuki, there is still no disclosure or suggestion of "selecting one of at least two speed settings for the read mode **in dependence** on an actual rotation speed of the record carrier during the write mode when switching from write mode to read mode, the difference in rotation speed between said actual

rotation speed and the speed in the read mode being limited by said selection," as recited in independent claims 1 and 10.

At best, Suzuki discloses to change the recording and reproducing speeds are increased based on counting the **time** in frames. There is no disclosure or suggestion that such a counted time is for frames being written while in dependence thereof the read speed is changed. Further, limiting the difference in rotation speed between the actual rotation speed and the speed in the read mode by selecting one of at least two speed settings for the read mode, in dependence on the actual rotation speed of the record carrier during the write mode when switching from write mode to read mode, is nowhere disclosed or suggested in Suzuki.

Further, at col. 14, lines 40-55, Suzuki states:

> First, a description will be given of the operation in the FG/DEC/WBL mode when there is recorded data.
>
> FIG. 12 is a time chart for explaining the operation in the FG/DEC/WBL mode when there is recorded data, with respect to the rotating motor control apparatus of the present invention. In FIG. 12, the same designations as used as in FIG.2.
>
> In this case, the automatic mode switching operation is carried out so that the mode is switched to the DEC mode when the signal DPLOCK is active, and

> the mode is switched to the WBL mode when the signal DPLOCK is inactive.
>
> In other words, when the decoder PLL of the CD-DSP 32 is in a locked state, a stable data synchronization is achieved, and the rotating motor is controlled based on the recorded data.

Here, Suzuki is stating that the rotating motor is controlled based on the recorded data. Again, there is no mention of the read rotation speed being selected based on the write rotation speed when switching from a write mode to a read mode.

In addition, at col. 24, lines 36-57, Suzuki states:

> FIG. 24 is a time chart for explaining the operation in the FG/WBL mode at the start of the write process. In FIG. 24, the same designations are used as in FIG. 22.
>
> FIG. 25 is a time chart for explaining the operation in the FG/WBL mode at the end of the write process. In FIG. 25, the same designations are used as in FIG. 22.
>
> In this eleventh embodiment, the switching between the WBL/AX modes is made so that the mode is set to the WBL mode up to a position slightly before (for example, 1 sector before) a position (address) where the write process starts, and the mode is switched to the AX mode when the position slightly before the position where the write process starts is reached.
>
> The switching between the WBL/AX modes is made as described above, because the WBL mode enables control at a high speed due to the high frequency (22 kHz) of the wobble signal, and the settling can be achieved

> quickly. Hence first, the rotational speed is completely synchronized to the wobble signal in the WBL mode.
>
> The mode is then switched to the AX mode immediately before the start of the write process, and the write process started thereafter.

This section of Suzuki describes the start-up of the rotational motor in a write process, first in the WBL mode and then switching to the WBL/AX mode immediately before the start of the write process. However, again, there is no mention of the read rotation speed being selected based on the write rotation speed when switching from a write mode to a read mode.

Finally, at col. 4, line 52 to col. 5, line 4, Suzuki states:

> A further object of the present invention is to provide a rotating motor control apparatus for a recordable optical disk unit comprising a data synchronizing rotation control circuit controlling rotation of a rotating motor in synchronism with a recorded data signal, a phase synchronizing circuit synchronizing to a phase of the data signal, a synchronous detection circuit detecting a synchronized state of the phase synchronizing circuit and outputting a lock signal, frequency generating means for outputting a FG signal having a frequency proportional to a rotational speed of the rotating motor, and a FG rotation control circuit controlling the motor to a predetermined rotational speed depending on the FG signal, where the data synchronizing rotation control circuit drives the

> rotating motor when the lock signal is obtained, and the FG rotation control circuit drives the rotating motor when no lock signal is obtained. According to the rotating motor control apparatus of the present invention, in a case where the data synchronization cannot be achieved in a transient state such as during a variable speed upon access, the FG control mode is automatically selected.

This portion of Suzuki describes a dual system for controlling the motor rotational speed, including a phase synchronization circuit for synchronizing to the phase of a recorded data signal and generating a lock signal, and a FG rotation control circuit for controlling the rotational speed in the absence of the lock signal, based on an FG signal proportional to the rotational speed of the motor. Again, there is no mention of the read rotation speed being selected based on the write rotation speed when switching from a write mode to a read mode.

However, Applicants submit that Suzuki does not disclose or suggest "selecting one of at least two speed settings for the read mode in dependence on an actual rotation speed of the record carrier during the write mode when switching from write mode to read mode, the difference in rotation speed between said actual

rotation speed and the speed in the read mode being limited by said selection," as recited in independent claims 1 and 10. Isobe is cited to allegedly show other features and does not remedy the deficiencies in Suzuki.

In view of the above, it is respectfully submitted that independent claims 1 and 10 are allowable, and allowance thereof is respectfully requested. In addition, it is respectfully submitted that claims 2-9 are also allowable at least based on their dependence from independent claims 1 and 8. Further, it is respectfully submitted that the cancellation of claim 3 renders moot this rejection with regard to this claim.

Claims 8 and 9 are said to be unpatentable over Suzuki and Isobe.

It is respectfully submitted that claims 8 and 9 should be allowed at least based on their dependence from independent claim 1.

In addition, Appellants deny any statement, position or averment of the Examiner that is not specifically addressed by the

foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Appellants reserve the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

CONCLUSION

Claims 1-10 are patentable over Suzuki and Isobe.

Thus, the Examiner's rejections of claims 1-10 should be reversed.

Respectfully submitted,

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CLAIMS APPENDIX

1.(Previously Presented) A device for recording information on a disc-shaped record carrier, the record carrier comprising a track for recording information, the device comprising:

a head for scanning the track;

a read unit for retrieving information from the track via the head;

a write unit for recording information in the track via the head;

a mode control unit for switching the device either to a read mode or to a write mode; and

a rotation speed control unit (37) for setting the rotation speed of the record carrier,

characterized in that the rotation speed control unit comprises a speed selector for selecting one of at least two speed settings for the read mode in dependence on an actual rotation speed of the record carrier during the write mode when switching

from write mode to read mode, the difference in rotation speed between said actual rotation speed and the speed in the read mode being limited by said selection.

2.(Previously Presented) The device as claimed in claim 1, wherein the speed control unit controls the speed of the record carrier during recording according to a constant linear velocity (CLV) profile.

3.(Previously Presented) The device as claimed in claim 1, wherein the speed control unit controls the speed of the record carrier during reading according to a constant angular velocity (CAV) profile.

4.(Previously Presented) The device as claimed in claim 1, wherein the speed selector comprises a lowest speed setting for the read mode for a rotation speed substantially above the lowest rotation speed in the write mode, and/or a highest speed setting for read for a rotation speed substantially below the highest

rotation speed in the write mode.

5.(Previously Presented) The device as claimed in claim 3, wherein at least a number of the speed settings are at predefined rotation frequencies having at least one predefined rotation frequency interval.

6.(Previously Presented) The device as claimed in claim 1, wherein the speed control unit accommodates a write rotation speed range for recording in which the highest speed is substantially 2,5 times the lowest speed, and the speed selector selects one of 4 speed settings for the read mode.

7.(Previously Presented) The device as claimed in claim 1, wherein the device further comprises a write buffer for storing information to be recorded, and wherein the mode control unit switches the modes in dependence on a filling degree of the write buffer

8.(Previously Presented) The device as claimed in claim 7, wherein the device comprises a video encoding unit for receiving video data and providing encoded video as information to be recorded via the write buffer.

9.(Previously Presented) The device as claimed in claim 7, wherein the mode control unit controls the write unit to record a first continuous stream of real-time information via the write buffer, at the same time, controls the read unit to retrieve a second stream of real-time information by alternating the write mode and the read mode.

10. (Previously Presented) A method of controlling a speed of rotation of a disc-shaped record carrier, the record carrier comprising a track for recording information, the method comprising the steps of:

scanning the track via a head;

retrieving information from the track via the head;

recording information in the track via the head;

switching the device either to a read mode or to a write mode; and

setting the rotation speed of the record carrier,

characterized in that the step of setting the rotations speed of the record carrier comprises selecting one of at least two speed settings for the read mode in dependence on an actual rotation speed of the record carrier during the write mode when switching from write mode to read mode, the difference in rotation speed between said actual rotation speed and the speed in the read mode being limited by said selection.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None